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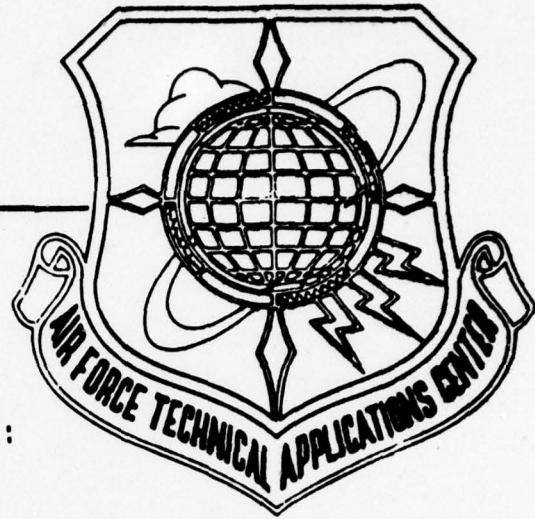
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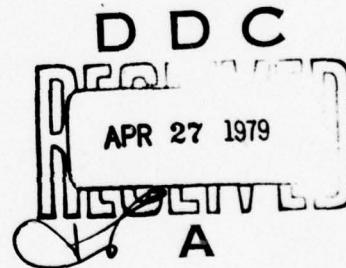
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CALCULATIONAL PROCEDURE FOR
EVALUATING TIME- AND SPATIAL-
DEPENDENT ENERGY DEPOSITION IN
AIR FOR ANISOTROPIC NUCLEAR SOURCES:
VOL. V, DATA FOR LINE BEAM SOURCES

Radiation Research Associates, Inc.
Fort Worth, Texas



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sulting from neutron capture and inelastic scattering in air. The energy deposition data for line-beam sources and for point isotropic sources were found to compare favorably with similar data reported in the literature. The RENDER procedure was run utilizing energy deposition data from the conical source-data base for a 9-to-10-MeV gamma-ray source and the results of the convolution over source emission direction and time were found to be in good agreement with the input data, indicating that the RENDER procedure performs the time-and-angle convolution correctly.

Volumes II through IV of this report present tabulated data on the time dependent energy deposition in air versus range for neutron and gamma-ray point isotropic sources and for secondary gamma rays generated by point isotropic neutron sources. Also given in Vol. V are curve fit coefficients for use in computing the energy deposition in air vs distance and source emission angle for line beam sources of neutrons and gamma rays. Coefficient data are also given for secondary gamma-ray energy deposition by line beam neutron sources.

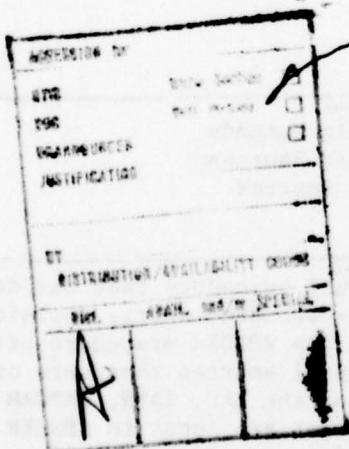


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I. INTRODUCTION

This is the fifth volume of a five-volume report which presents the results of an extensive parameter study on gamma-ray, neutron and neutron-produced secondary gamma ray energy deposition in a homogeneous medium of air ($\rho = 1.225 \times 10^{-3} \text{ g/cm}^3$) and describes a computer procedure (RENDER) which was developed to utilize the parametric data when computing the time and spatial distributions of the energy deposition in air for anisotropic nuclear sources.

This volume presents calculated time integrated energy deposition data for line beam gamma-ray and neutron sources emitting radiation in the source energy intervals listed in Table I. The radial and polar angle intervals used in storing the energy deposition data are given in Table II. The geometry used in the energy deposition calculation is shown in Fig. 1. The source radiation (neutron or gamma ray) is emitted from the source point in the direction $\theta = 0^\circ$. The energy deposition was determined for regions formed by the intersection of the conical surfaces generated by the revolution of the radii R_{i-1} and R_i inclined at polar angles Θ_{i-1} and Θ_i , respectively about the source axis and the spherical surfaces formed by the revolution of the radii R_{i-1} and R_i about the source point.

The calculational methods used to compute energy deposition data in air for line beam nuclear sources are described in Vol. I of this report.

The time integrated energy deposition data for line-beam sources as a function of radial distance, deposition polar-angle interval and source-energy interval have been curve fitted by a least squares method with the use of the equation

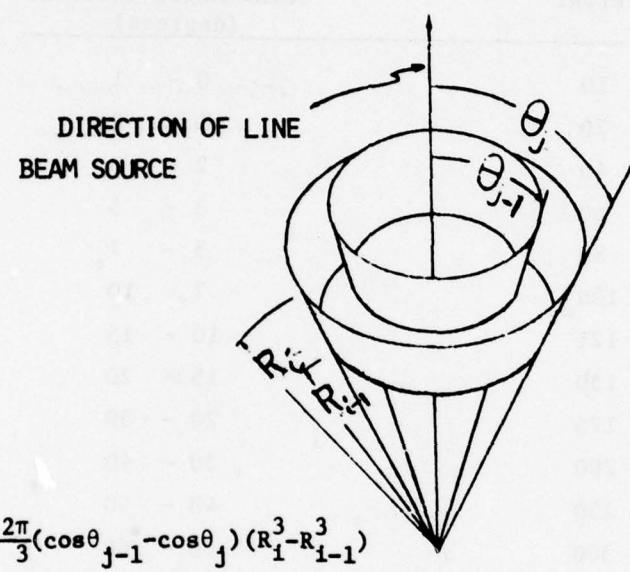
$$ED(\Theta_i, \bar{R}_j, E_k) = e^{-A_{i,k}} \bar{R}_j^{B_{i,k}} e^{-C_{i,k}} \bar{R}_j$$

TABLE I. SOURCE ENERGY INTERVAL BOUNDS USED FOR NEUTRON AND
PRIMARY GAMMA-RAY PROBLEMS

<u>Neutron Source Energy Intervals (MeV)</u>	<u>Primary Gamma-Ray Energy Intervals (MeV)</u>
0.001 - 0.00335	9.0 - 10.0
0.00335 - 0.0912	8.0 - 9.0
0.0912 - 0.0248	7.0 - 8.0
0.0248 - 0.0676	6.0 - 7.0
0.0676 - 0.184	5.0 - 6.0
0.184 - 0.303	4.0 - 5.0
0.303 - 0.50	3.0 - 4.0
0.50 - 0.823	2.0 - 3.0
0.823 - 1.353	1.0 - 2.0
1.353 - 1.738	0.5 - 1.0
1.738 - 2.232	0.1 - 0.5
2.232 - 2.865	0.01 - 0.1
2.865 - 3.680	
3.680 - 6.070	
6.070 - 7.790	
7.790 - 10.0	
10.0 - 12.0	
12.0 - 13.5	
13.5 - 15.0	

TABLE II. RADIAL AND ANGLE INTERVALS USED TO DEFINE DEPOSITION GEOMETRY

Radial Interval (m)	Polar Angle Interval (degrees)
0 - 10	0 - 1
10 - 20	1 - 2
20 - 40	2 - 3
40 - 60	3 - 5
60 - 80	5 - 7
80 - 100	7 - 10
100 - 125	10 - 15
125 - 150	15 - 20
150 - 175	20 - 30
175 - 200	30 - 40
200 - 250	40 - 50
250 - 300	50 - 60
300 - 350	60 - 70
350 - 400	70 - 80
400 - 450	80 - 90
450 - 500	90 - 100
500 - 600	100 - 120
600 - 800	120 - 140
800 - 1000	140 - 160
1000 - 1200	160 - 180
1200 - 1500	



$$dV = \frac{2\pi}{3}(\cos\theta_{j-1} - \cos\theta_j)(R_i^3 - R_{i-1}^3)$$

Fig. 1. Energy Deposition Geometry for Line Beam Sources

where i and k are indices denoting the deposition polar angle interval and source energy interval and

$$\bar{R}_j = \left[\frac{1}{2} (R_{j-1}^3 + R_j^3) \right]^{1/3}$$

for R_{j-1} and R_j being the lower and upper bounds of the j th radial interval. Tables III, IV, and V list the parameters A, B and C and the coefficient of determination r^2 as a function of the deposition polar angle and source energy intervals. Values of R^2 close to 1.00 indicate the goodness of the fit to the DEPO-calculated energy deposition data. The energy deposition, $ED(\theta_i, \bar{R}_j, E_k)$, is in units of $\text{keV m}^{-3}/\text{keV}$ of source energy for gamma-ray sources and $\text{keV m}^{-3}/\text{source neutron}$ for neutron and neutron-generated secondary gamma-ray sources.

The time integrated energy deposition data given in Tables III, IV, and V can be converted to air-kerma rate (exposure rate in air, $\rho = 1.225 \times 10^{-3} \text{ g/cm}^3$) by multiplying the energy deposition data with one of the following factors:

<u>Source</u>	<u>Kerma Factor</u>
Gamma Rays	$4.708 \times 10^{-11} \bar{E}_o$
Neutrons	$4.708 \times 10^{-11} \bar{E}_o$
Secondary Gamma Rays	4.708×10^{-11}

The units of the resulting air-kerma rate is $\text{rad hr}^{-1}/\text{source particle sec}^{-1}$ and \bar{E}_o is the average source energy within the source energy interval.

TABLE III. CURVE FIT COEFFICIENTS FOR ENERGY DEPOSITION
VS RANGE BY LINE BEAM GAMMA RAY SOURCES

Energy Deposition ($\text{keV m}^{-3}/\text{keV}$ of source energy)

SOURCE ENERGY 9.00E 00 - 1.00E 01 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	- .96633	-2.22751	.00124	.99819
1.0 - 2.0	-7.23194	-1.59176	.00116	.91261
2.0 - 3.0	-10.55880	-1.03487	.00228	.88715
3.0 - 4.0	-10.71092	-1.10146	.00216	.94909
4.0 - 5.0	-15.95755	-1.16114	.00399	.94797
5.0 - 7.0	-11.35975	-1.25891	.00159	.96544
7.0 - 10.0	-10.74326	-1.49491	.00144	.99118
10.0 - 15.0	-12.98317	-1.16770	.00256	.99824
15.0 - 20.0	-14.41240	-1.03743	.00298	.99645
20.0 - 30.0	-15.80386	-8.8826	.00416	.99556
30.0 - 40.0	-15.84307	-9.6073	.00478	.99930
40.0 - 50.0	-13.66694	-1.46949	.00482	.98694
50.0 - 60.0	-17.69994	-6.6462	.00743	.99841
60.0 - 70.0	-19.20303	-3.8074	.00883	.99862
70.0 - 80.0	-16.56897	-1.03676	.00657	.99314
80.0 - 90.0	-15.18189	-1.38329	.00580	.99526
90.0 - 100.0	-17.58408	-8.2025	.00921	.99631
100.0 - 120.0	-15.98180	-1.25561	.00757	.99614
120.0 - 140.0	-17.44104	-9.6695	.00862	.99299
140.0 - 160.0	-17.76595	-9.2762	.00971	.90124

SOURCE ENERGY 8.00E 00 - 9.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	-1.27643	-2.19521	.00117	.99887
1.0 - 2.0	-5.02626	-1.86655	.00034	.95264
2.0 - 3.0	-9.32754	-1.41189	.00063	.76991
3.0 - 4.0	-10.08947	-1.22374	.00188	.94895
4.0 - 5.0	-11.52567	-1.02790	.00239	.99202
5.0 - 7.0	-12.54757	-9.5172	.00256	.99123
7.0 - 10.0	-16.28294	-31.207	.00404	.98578
10.0 - 15.0	-12.47079	-1.27018	.00210	.98556
15.0 - 20.0	-13.79041	-1.12887	.00300	.99639
20.0 - 30.0	-13.44670	-1.35021	.00308	.98528
30.0 - 40.0	-15.25742	-1.008369	.00422	.99793
40.0 - 50.0	-15.89613	-1.03279	.00527	.99634
50.0 - 60.0	-17.16479	-8.00018	.00655	.99079
60.0 - 70.0	-16.28027	-1.07681	.00579	.99595
70.0 - 80.0	-19.24190	-4.7628	.00839	.99094
80.0 - 90.0	-19.0226	-5.8027	.00797	.9806
90.0 - 100.0	-18.44720	-7.0765	.00867	.99544
100.0 - 120.0	-17.89644	-8.9165	.00817	.94444
120.0 - 140.0	-19.65666	-4.2998	.01047	.99053
140.0 - 160.0	-15.62134	-1.48406	.00565	.98130

TABLE III. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{keV}$ of source energy)

SOURCE ENERGY 7.00E 00 - 8.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 -	1.0	-1.61453	-2.07488	.00185
1.0 -	2.0	-6.32340	-1.76996	.00078
2.0 -	3.0	-5.99313	-1.90355	.00086
3.0 -	5.0	-10.52523	-1.13105	.00211
4.0 -	7.0	-10.45683	-1.26182	.00174
5.0 -	10.0	-9.85828	-1.47730	.00158
6.0 -	15.0	-12.93887	-1.00588	.00246
7.0 -	20.0	-15.12577	-1.67508	.00348
8.0 -	30.0	-15.62516	-1.71210	.00387
9.0 -	40.0	-14.92150	-1.02963	.00367
10.0 -	50.0	-15.88956	-1.89034	.00511
11.0 -	60.0	-18.57085	-1.41270	.00684
12.0 -	70.0	-16.88673	-1.82599	.00654
13.0 -	80.0	-17.29063	-1.75880	.00758
14.0 -	90.0	-19.08473	-1.44583	.00851
15.0 -	100.0	-19.62418	-1.27734	.01072
16.0 -	120.0	-19.91608	-1.23485	.01189
17.0 -	140.0	-18.55849	-1.64599	.00947
18.0 -	160.0	-26.29880	-1.04575	.01546
19.0 -	180.0	-16.83810	-1.12779	.00843

SOURCE ENERGY 6.00E 00 - 7.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 -	1.0	-2.38309	-1.90294	.00227
1.0 -	2.0	-4.80042	-2.06050	.00030
2.0 -	3.0	-7.47771	-1.62820	.00138
3.0 -	5.0	-8.84173	-1.44800	.00170
4.0 -	7.0	-8.77149	-1.59304	.00125
5.0 -	10.0	-17.85631	-1.33745	.00240
6.0 -	15.0	-11.52541	-1.70405	.00229
7.0 -	20.0	-14.59608	-1.00000	.00000
8.0 -	30.0	-14.94000	-1.00000	.00000
9.0 -	40.0	-14.59608	-1.00000	.00000
10.0 -	50.0	-14.00000	-1.00000	.00000
11.0 -	60.0	-15.00000	-1.00000	.00000
12.0 -	70.0	-17.00000	-1.00000	.00000
13.0 -	80.0	-17.00000	-1.00000	.00000
14.0 -	90.0	-17.00000	-1.00000	.00000
15.0 -	100.0	-17.00000	-1.00000	.00000
16.0 -	120.0	-17.00000	-1.00000	.00000
17.0 -	140.0	-17.00000	-1.00000	.00000
18.0 -	160.0	-17.00000	-1.00000	.00000
19.0 -	180.0	-22.50772	-1.62866	.01164

TABLE III. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{keV}$ of source energy)

SOURCE ENERGY 5.00E 00 - 6.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	-1.17040	-2.17234	.00171	.99826
1.0 - 2.0	-6.28665	-1.77324	.00085	.93598
2.0 - 3.0	-6.92961	-1.70296	.00138	.96674
3.0 - 5.0	-9.37788	-1.31503	.00204	.97190
5.0 - 7.0	-9.19481	-1.50111	.00152	.97568
7.0 - 10.0	-10.63778	-1.27132	.00208	.98577
10.0 - 15.0	-12.49068	-1.02191	.00286	.94921
15.0 - 20.0	-12.96586	-1.02922	.00303	.99434
20.0 - 30.0	-12.74737	-1.24221	.00294	.99646
30.0 - 40.0	-14.33475	-1.05459	.00387	.99678
40.0 - 50.0	-15.27230	-1.94429	.00499	.99793
50.0 - 60.0	-15.37394	-1.05225	.00497	.99822
60.0 - 70.0	-15.79401	-1.98227	.00612	.99821
70.0 - 80.0	-18.83327	-1.39076	.00842	.99296
80.0 - 90.0	-16.85590	-1.88791	.00704	.99627
90.0 - 100.0	-19.22762	-1.30986	.01064	.99330
100.0 - 120.0	-16.74614	-1.96728	.00832	.99711
120.0 - 140.0	-19.83728	-1.38135	.00937	.98084
140.0 - 160.0	-20.87526	-1.08079	.01287	.98450
160.0 - 180.0	-21.24854	-1.07652	.01207	.97155

SOURCE ENERGY 4.00E 00 - 5.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	-1.35251	-2.09433	.00238	.99934
1.0 - 2.0	-6.39405	-1.64521	.00188	.97322
2.0 - 3.0	-5.14678	-2.03407	.00108	.97907
3.0 - 5.0	-13.22635	-1.45479	.00436	.98773
5.0 - 7.0	-13.89037	-1.39186	.00465	.97222
7.0 - 10.0	-12.03440	-1.91836	.00329	.95405
10.0 - 15.0	-12.98685	-1.83081	.00369	.99589
15.0 - 20.0	-14.23664	-1.72083	.00396	.99295
20.0 - 30.0	-13.50491	-1.01001	.00362	.99845
30.0 - 40.0	-13.50518	-1.17783	.00370	.98860
40.0 - 50.0	-16.39047	-1.66536	.00572	.99494
50.0 - 60.0	-16.86620	-1.65382	.00626	.99408
60.0 - 70.0	-19.25792	-1.24138	.00735	.98904
70.0 - 80.0	-17.19453	-1.59774	.00913	.98648
80.0 - 90.0	-16.49124	-1.93109	.00692	.99698
90.0 - 100.0	-20.81064	-1.05883	.00936	.98501
100.0 - 120.0	-20.82613	-1.04857	.01101	.99433
120.0 - 140.0	-18.14961	-1.67325	.00935	.99405
140.0 - 160.0	-21.16092	-1.7101	.01616	.98456
160.0 - 180.0	-23.82805	-1.0598	.02023	.98415

TABLE III. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{keV}$ of source energy)

SOURCE ENERGY 3.00E 00 - 4.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	1.0	-1.41427	-2.07019	.00286
1.0	2.0	-5.33547	-1.84693	.00191
2.0	3.0	-8.29190	-1.30205	.00302
3.0	4.0	-7.58098	-1.61380	.00204
4.0	5.0	-12.03496	-7.73352	.00389
5.0	6.0	-11.16974	-1.03341	.00350
6.0	7.0	-12.45923	-0.83951	.00394
7.0	8.0	-11.64471	-1.19631	.00326
8.0	9.0	-11.75365	-4.5302	.00533
9.0	10.0	-11.30522	-1.14323	.00410
10.0	11.0	-11.40535	-8.1598	.00530
11.0	12.0	-11.36346	-0.90304	.00564
12.0	13.0	-14.99603	-1.04959	.00618
13.0	14.0	-14.69474	-1.13174	.00705
14.0	15.0	-17.08331	-6.5098	.00836
15.0	16.0	-17.31468	-6.7162	.00886
16.0	17.0	-17.30241	-7.3850	.00875
17.0	18.0	-17.00349	-8.8367	.00879
18.0	19.0	-21.66013	-1.6085	.01294
19.0	20.0	-19.71294	-4.1913	.00929
20.0	21.0			.97835

SOURCE ENERGY 2.00E 00 - 3.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	1.0	-1.09777	-2.09146	.00374
1.0	2.0	-5.87928	-1.65446	.00310
2.0	3.0	-7.25144	-1.59154	.00327
3.0	4.0	-9.75290	-1.09174	.00397
4.0	5.0	-8.56222	-4.39049	.00304
5.0	6.0	-10.44622	-1.12027	.00384
6.0	7.0	-13.04600	-0.91202	.00304
7.0	8.0	-13.44600	-0.91202	.00384
8.0	9.0	-13.44600	-0.91202	.00304
9.0	10.0	-13.44600	-0.91202	.00384
10.0	11.0	-13.44600	-0.91202	.00304
11.0	12.0	-13.44600	-0.91202	.00384
12.0	13.0	-13.44600	-0.91202	.00304
13.0	14.0	-13.44600	-0.91202	.00384
14.0	15.0	-13.44600	-0.91202	.00304
15.0	16.0	-13.44600	-0.91202	.00384
16.0	17.0	-13.44600	-0.91202	.00304
17.0	18.0	-13.44600	-0.91202	.00384
18.0	19.0	-13.44600	-0.91202	.00304
19.0	20.0	-13.44600	-0.91202	.00384
20.0	21.0			.99643

TABLE III. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{keV}$ of source energy)

SOURCE ENERGY 1.00E 00 - 2.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 -	1.0	-1.88207	-1.83160	.99550
1.0 -	100.0	-6.15557	-1.55195	.95064
2.0 -	33.0	-6.68954	-1.57096	.99473
3.0 -	7.0	-7.61911	-1.43174	.99452
4.0 -	1.0	-8.74499	-1.29698	.99563
5.0 -	10.0	-10.51921	-1.02387	.98875
6.0 -	15.0	-10.74390	-1.09209	.99899
7.0 -	20.0	-12.33465	-0.82242	.99803
8.0 -	30.0	-12.70635	-0.88981	.99768
9.0 -	40.0	-12.41500	-1.07663	.99740
10.0 -	50.0	-13.64023	-0.92274	.99952
11.0 -	60.0	-14.84865	-0.73399	.99882
12.0 -	70.0	-17.12921	-0.24467	.99190
13.0 -	80.0	-14.29750	-1.03933	.99821
14.0 -	90.0	-16.27524	-0.66829	.99717
15.0 -	100.0	-15.49397	-0.85092	.99638
16.0 -	120.0	-15.89609	-0.78414	.99117
17.0 -	140.0	-17.14375	-0.53206	.99347
18.0 -	160.0	-16.03120	-0.82810	.99755
19.0 -	180.0	-13.88944	-1.46034	.99650

SOURCE ENERGY 5.00E-01 - 1.00E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 -	1.0	-1.70224	-1.88534	.99684
1.0 -	2.0	-3.74522	-2.03614	.98497
2.0 -	4.0	-6.78916	-1.40120	.98978
3.0 -	7.0	-9.66956	-0.83778	.98304
4.0 -	10.0	-10.30129	-0.82406	.99476
5.0 -	15.0	-13.67237	-1.5578	.98426
6.0 -	20.0	-12.91123	-0.51830	.99017
7.0 -	30.0	-13.44011	-0.33853	.98185
8.0 -	40.0	-16.17589	-0.33926	.99247
9.0 -	50.0	-14.68676	-0.6593	.99730
10.0 -	60.0	-13.04298	-0.88446	.99903
11.0 -	70.0	-14.44376	-0.62403	.99786
12.0 -	80.0	-16.26572	-0.25803	.99339
13.0 -	90.0	-15.89551	-0.9649	.99499
14.0 -	100.0	-15.63542	-0.9517	.99328
15.0 -	120.0	-15.51944	-0.5038	.99375
16.0 -	140.0	-16.45744	-0.48418	.99751
17.0 -	160.0	-15.57878	-0.66388	.94852
18.0 -	180.0	-14.66253	-0.93023	.99745

TABLE III. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{keV}$ of source energy)SOURCE ENERGY $1.00E-01 - 5.00E-01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	-3.03216	-1.36209	.01758	.97862
1.0 - 2.0	-4.02539	-1.95695	.00743	.98767
2.0 - 5.0	-5.00325	-1.87462	.00689	.98974
5.0 - 7.0	-7.79520	-1.32186	.00879	.99643
7.0 - 10.0	-8.64205	-1.17512	.00942	.99857
10.0 - 15.0	-9.09309	-1.15442	.00919	.99857
15.0 - 20.0	-9.36501	-1.16253	.00944	.99906
20.0 - 30.0	-11.28526	-1.75515	.01147	.99808
30.0 - 40.0	-10.62629	-1.08614	.00891	.99689
40.0 - 50.0	-12.17277	-1.71810	.01192	.99536
50.0 - 60.0	-13.91578	-1.31443	.01483	.98573
60.0 - 70.0	-12.97496	-1.73646	.01128	.99926
70.0 - 80.0	-12.52756	-1.90100	.01083	.99926
80.0 - 90.0	-12.80100	-1.93309	.01072	.99829
90.0 - 100.0	-13.43838	-1.51621	.01326	.99914
100.0 - 120.0	-13.95091	-1.81320	.01255	.99831
120.0 - 140.0	-13.42071	-1.70494	.01294	.99872
140.0 - 160.0	-13.24349	-1.89696	.01199	.99502
160.0 - 180.0	-14.60762	-1.96503	.01198	.99915
		-1.45341	.01852	.98436

SOURCE ENERGY $1.00E-02 - 1.00E-01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	2.64685	-3.05353	.00944	.99030
1.0 - 2.0	-3.04431	-1.80892	.00562	.98876
2.0 - 5.0	-3.02244	-1.84497	.0010105	.990099
5.0 - 7.0	-3.03580	-1.79505	.0012010	.99428
7.0 - 10.0	-3.04666	-1.79790	.0011201	.99786
10.0 - 15.0	-3.04864	-1.74442	.0014401	.99636
15.0 - 20.0	-3.05001	-1.74644	.0014401	.99299
20.0 - 30.0	-3.05133	-1.74644	.0014401	.99676
30.0 - 40.0	-3.05150	-1.74644	.0014401	.99859
40.0 - 50.0	-3.05150	-1.74644	.0014401	.99859
50.0 - 60.0	-3.05150	-1.74644	.0014401	.99859
60.0 - 70.0	-3.05150	-1.74644	.0014401	.99859
70.0 - 80.0	-3.05150	-1.74644	.0014401	.99859
80.0 - 90.0	-3.05150	-1.74644	.0014401	.99859
90.0 - 100.0	-3.05150	-1.74644	.0014401	.99859
100.0 - 120.0	-3.05150	-1.74644	.0014401	.99859
120.0 - 140.0	-3.05150	-1.74644	.0014401	.99859
140.0 - 160.0	-3.05150	-1.74644	.0014401	.99859
160.0 - 180.0	-3.05150	-1.74644	.0014401	.99859

TABLE IV. CURVE FIT COEFFICIENTS FOR ENERGY DEPOSITION
VS RANGE BY LINE BEAM NEUTRON SOURCES

Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)

SOURCE ENERGY $1.35E\ 01 - 1.50E\ 01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	11.79056	-2.36562	.00548	.99698
1.0 - 2.0	5.24897	-2.06060	.00341	.97034
2.0 - 3.0	4.91034	-2.04412	.00314	.98280
3.0 - 5.0	2.31310	-1.53585	.00477	.98539
5.0 - 7.0	48599	-1.18921	.00591	.99368
7.0 - 10.0	-5.53407	-1.12414	.00537	.99582
10.0 - 15.0	-8.8263	-1.21437	.00421	.99680
15.0 - 20.0	-8.13474	.17334	.00729	.85917
20.0 - 30.0	-2.92079	-1.04224	.00445	.99749
30.0 - 40.0	-2.99084	-1.17425	.00421	.99634
40.0 - 50.0	-6.03064	-6.7306	.00490	.98771
50.0 - 60.0	-3.97593	-1.16993	.00400	.99715
60.0 - 70.0	-4.30739	-1.18327	.00404	.99489
70.0 - 80.0	-4.98598	-1.11241	.00403	.98518
80.0 - 90.0	-6.83104	-6.81463	.00456	.94894
90.0 - 100.0	-4.33661	-1.40606	.00322	.97171
100.0 - 120.0	-9.73293	-2.56277	.00577	.95823
120.0 - 140.0	-6.70316	-9.9282	.00414	.98992
140.0 - 160.0	-17.88844	1.29358	.01022	.95034
160.0 - 180.0	-11.80315	.04241	.00593	.88055

SOURCE ENERGY $1.20E\ 01 - 1.35E\ 01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	11.26933	-2.23524	.00617	.99941
1.0 - 2.0	5.23767	-1.98559	.00397	.95663
2.0 - 3.0	3.75839	-1.81088	.00424	.98445
3.0 - 5.0	1.77241	-1.46569	.00497	.99249
5.0 - 7.0	-1.27108	-0.95004	.00570	.99744
7.0 - 10.0	-3.44007	-1.20438	.00523	.99378
10.0 - 15.0	1.0230	-1.37467	.00484	.99595
15.0 - 20.0	-1.15953	-1.27707	.00433	.99535
20.0 - 30.0	-2.33669	-1.21581	.00403	.99623
30.0 - 40.0	-4.23669	-0.93110	.00470	.99718
40.0 - 50.0	-5.08931	-0.90594	.00438	.97062
50.0 - 60.0	-5.16307	-0.94760	.00435	.99463
60.0 - 70.0	-5.43062	-0.91925	.00472	.99487
70.0 - 80.0	-5.87579	-0.83207	.00518	.99406
80.0 - 90.0	-5.96258	-0.92643	.00460	.97527
90.0 - 100.0	-6.33561	-0.95980	.00442	.96958
100.0 - 120.0	-8.52367	-0.51110	.00570	.98806
120.0 - 140.0	-7.42904	-0.83067	.00480	.93919
140.0 - 160.0	-5.04151	-1.28226	.00384	.96632
160.0 - 180.0	-15.01999	.69908	.00864	.93689

TABLE IV. (continued)

Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)

SOURCE ENERGY 1.00E 01 - 1.20E 01 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	9.50477	-1.77753	.00889	.99262
20.0 - 2.0	4.94407	-2.07079	.00332	.97861
30.0 - 3.0	3.71430	-1.81282	.00430	.99108
40.0 - 4.0	3.35750	-1.22063	.00556	.99123
50.0 - 5.0	-0.89430	-1.19589	.00426	.98372
60.0 - 6.0	-1.76286	-1.18851	.00501	.99278
70.0 - 7.0	-1.50710	-1.38270	.00393	.99764
80.0 - 8.0	-1.00566	-0.96529	.00465	.99708
90.0 - 9.0	-1.0167	-1.08819	.00430	.99533
100.0 - 10.0	-0.57215	-0.72849	.00402	.99507
110.0 - 11.0	-0.40427	-1.36928	.00318	.99651
120.0 - 12.0	-0.69386	-1.26133	.00368	.99610
130.0 - 13.0	-0.47028	-0.72164	.00491	.99506
140.0 - 14.0	-0.382422	-1.36142	.00324	.99343
150.0 - 15.0	-0.61195	-0.9309	.00425	.95793
160.0 - 16.0	-4.59395	-1.27023	.00370	.99261
170.0 - 17.0	-5.70311	-1.08788	.00412	.99092
180.0 - 18.0	-9.07787	-0.43378	.00532	.99525
190.0 - 19.0	-19.44630	1.70296	.00980	.89352
200.0 - 20.0	-17.39287	1.24770	.00818	.84094

SOURCE ENERGY 7.79E 00 - 1.00E 01 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	9.81065	-2.05746	.00576	.99941
20.0 - 2.0	2.56297	-1.00046	.00461	.98011
30.0 - 3.0	0.80028	-1.4020	.00465	.98537
40.0 - 4.0	1.71621	-1.40396	.00323	.99093
50.0 - 5.0	-1.67482	-0.99178	.00400	.99620
60.0 - 6.0	-5.10634	-0.40421	.00500	.79384
70.0 - 7.0	-4.41976	-0.40421	.00439	.99791
80.0 - 8.0	-2.80287	-0.90000	.00439	.99474
90.0 - 9.0	-4.29479	-0.90000	.00439	.99500
100.0 - 10.0	-6.29795	-0.90000	.00439	.99105
110.0 - 11.0	-6.73738	-0.90000	.00439	.98610
120.0 - 12.0	-0.87779	-0.40193	.00484	.99073
130.0 - 13.0	-4.10000	-0.40193	.00484	.99105
140.0 - 14.0	-4.97779	-0.40193	.00484	.98610
150.0 - 15.0	-10.19976	-0.19439	.00000	.99073
160.0 - 16.0	-0.30555	-0.19439	.00000	.97866
170.0 - 17.0	-9.34447	-0.19439	.00000	.99337
180.0 - 18.0	-4.12444	-0.19439	.00000	.98052
190.0 - 19.0	-0.98886	-0.80637	.00466	.99437
200.0 - 20.0	-0.97017	-0.80637	.00466	.99575
210.0 - 21.0	-1.622093	-1.10741	.00356	.98957
220.0 - 22.0	-14.23426	0.63808	.00802	.91453
230.0 - 23.0				.96151

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $6.07\text{E } 00 - 7.79\text{E } 00$ (MEV)

ANGLE (DEG)		A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0	-	1.0	9.65566	-2.06928	.00573
1.0	-	2.0	2.67321	-1.65162	.00407
2.0	-	3.0	1.93732	-1.60498	.00392
3.0	-	5.0	1.50255	-1.68339	.00308
5.0	-	7.0	2.25967	-1.34234	.00439
7.0	-	10.0	-2.76814	-1.91882	.00468
10.0	-	15.0	-1.45742	-1.32007	.00327
15.0	-	20.0	-2.71213	-1.15751	.00343
20.0	-	30.0	-4.19859	-1.97515	.00363
30.0	-	40.0	-4.53146	-1.01323	.00372
40.0	-	50.0	-4.75028	-1.05681	.00385
50.0	-	60.0	-5.62158	-1.96514	.00395
60.0	-	70.0	-6.74248	-1.78724	.00409
70.0	-	80.0	-7.24486	-1.67830	.00506
80.0	-	90.0	-6.00192	-1.99202	.00433
90.0	-	100.0	-6.52033	-1.86041	.00510
100.0	-	120.0	-9.28097	-1.44102	.00520
120.0	-	140.0	-5.63826	-1.20913	.00379
140.0	-	160.0	-5.46267	-1.32420	.00291
160.0	-	180.0	-33.83385	4.32862	.01414

SOURCE ENERGY $3.68\text{E } 00 - 6.07\text{E } 00$ (MEV)

ANGLE (DEG)		A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0	-	1.0	10.24768	-2.28521	.00546
1.0	-	2.0	.42734	-.90669	.99968
2.0	-	3.0	-.83625	-1.01547	.93806
3.0	-	5.0	-2.44093	-.85204	.98757
5.0	-	7.0	-.81207	-1.26789	.98227
7.0	-	10.0	-2.08412	-1.06633	.99822
10.0	-	15.0	-1.44124	-1.28495	.99637
15.0	-	20.0	-2.94264	-1.06508	.99514
20.0	-	30.0	-3.17787	-1.09991	.99924
30.0	-	40.0	-4.19452	-1.03878	.99704
40.0	-	50.0	-4.36390	-1.09848	.99562
50.0	-	60.0	-5.61831	-.89455	.99841
60.0	-	70.0	-7.28311	-.59596	.99508
70.0	-	80.0	-7.71212	-.53747	.99597
80.0	-	90.0	-5.95613	-.97069	.99054
90.0	-	100.0	-5.29219	-1.11981	.99657
100.0	-	120.0	-5.63841	-1.06937	.99656
120.0	-	140.0	-5.63120	-1.06628	.99715
140.0	-	160.0	-4.14783	-1.39563	.99333
160.0	-	180.0	-6.66942	-.62944	.99104

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)

SOURCE ENERGY 2.86E 00 - 3.68E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	7.62988	-1.52476	.01206	.98276
1.0 - 2.0	4.70281	-2.26303	.00348	.98845
2.0 - 3.0	-1.07127	-1.12680	.00559	.98448
3.0 - 5.0	-1.41983	-1.26311	.00517	.95450
5.0 - 7.0	.53204	-1.64832	.00480	.98579
7.0 - 10.0	-1.34241	-1.38332	.00455	.99275
10.0 - 15.0	-2.74267	-1.08543	.00608	.99146
15.0 - 20.0	-6.42196	-3.9121	.00714	.98103
20.0 - 30.0	-2.97897	-1.24325	.00487	.99485
30.0 - 40.0	-6.13328	-7.1616	.00556	.99561
40.0 - 50.0	-5.45148	-9.1443	.00537	.99788
50.0 - 60.0	-4.49311	-1.17142	.00468	.99726
60.0 - 70.0	-6.19268	-8.4086	.00559	.99609
70.0 - 80.0	-6.20857	-8.8564	.00539	.99691
80.0 - 90.0	-5.24132	-1.11142	.00506	.99461
90.0 - 100.0	-5.07182	-1.16894	.00455	.99808
100.0 - 120.0	-6.28002	-8.9211	.00581	.99614
120.0 - 140.0	-7.28827	-7.1418	.00601	.99798
140.0 - 160.0	-8.19918	-5.5487	.00639	.99482
160.0 - 180.0	-5.29530	-1.27995	.00376	.98055

SOURCE ENERGY 2.23E 00 - 2.86E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	8.88444	-2.14909	.00589	.99911
1.0 - 2.0	2.20516	-1.86056	.00402	.96268
2.0 - 3.0	-1.56462	-1.58624	.00519	.99083
3.0 - 7.0	-2.35736	-9.7368	.00668	.99665
7.0 - 10.0	-1.86164	-2.7017	.00433	.99348
10.0 - 15.0	-3.76630	-9.0274	.00580	.99612
15.0 - 20.0	-6.52908	-4.5342	.00601	.99056
20.0 - 30.0	-3.37672	-1.13668	.00490	.99578
30.0 - 40.0	-4.46286	-1.06511	.00417	.99220
40.0 - 50.0	-5.53227	-9.8169	.00496	.99778
50.0 - 60.0	-6.29438	-7.4835	.00568	.99669
60.0 - 70.0	-6.98644	-6.4257	.00601	.99549
70.0 - 80.0	-7.02601	-6.9339	.00592	.99793
80.0 - 90.0	-6.34268	-8.4777	.00597	.98853
90.0 - 100.0	-8.20367	-9.0456	.00641	.96687
100.0 - 120.0	-6.14206	-9.4881	.00560	.99716
120.0 - 140.0	-6.17769	-9.4809	.00549	.99871
140.0 - 160.0	-7.23569	-7.5166	.00630	.99381
160.0 - 180.0	-8.23614	-5.9582	.00623	.99148
	-7.58790	-5.0104	.01069	.98850

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $1.74\text{E } 00 - 2.23\text{E } 00$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 -	1.0	8.85550	-2.22050	.99880
1.0 -	2.0	1.35221	-1.63654	.98506
2.0 -	3.0	-1.11340	-1.17079	.97927
3.0 -	5.0	-2.00894	-1.01988	.97269
4.0 -	7.0	-2.49455	-1.07597	.98337
5.0 -	10.0	-2.35355	-1.20675	.99290
6.0 -	15.0	-3.61162	-1.03153	.99809
7.0 -	20.0	-4.38563	-1.91607	.99230
8.0 -	30.0	-5.27712	-1.82465	.99920
9.0 -	40.0	-4.30696	-1.13267	.99798
10.0 -	50.0	-5.45819	-1.90914	.99707
11.0 -	60.0	-5.83288	-1.89287	.99533
12.0 -	70.0	-6.12784	-1.83027	.99699
13.0 -	80.0	-7.20898	-1.64755	.99921
14.0 -	90.0	-6.11864	-1.91861	.98911
15.0 -	100.0	-8.45932	-1.45857	.99476
16.0 -	120.0	-6.66268	-1.85588	.99831
17.0 -	140.0	-7.10023	-1.70346	.99266
18.0 -	160.0	-8.34345	-1.42631	.98384
19.0 -	180.0	-9.06915	-1.37819	.98346

SOURCE ENERGY $1.35\text{E } 00 - 1.74\text{E } 00$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 -	1.0	4.96710	-1.99660	.96106
1.0 -	2.0	-1.51000	-1.77627	.93406
2.0 -	3.0	-1.35406	-1.40667	.98221
3.0 -	5.0	-1.72300	-1.41930	.99373
4.0 -	7.0	-1.25430	-1.45140	.99589
5.0 -	10.0	-1.76625	-1.37001	.99761
6.0 -	15.0	-3.17831	-1.18098	.99307
7.0 -	20.0	-1.56624	-1.12039	.97035
8.0 -	30.0	-4.36360	-1.02480	.99864
9.0 -	40.0	-6.22738	-1.57925	.99217
10.0 -	50.0	-5.77247	-1.82469	.99839
11.0 -	60.0	-6.35641	-1.77162	.99892
12.0 -	70.0	-8.12062	-1.43125	.99658
13.0 -	80.0	-7.25687	-1.55652	.99664
14.0 -	90.0	-6.24662	-1.88404	.98890
15.0 -	100.0	-8.38662	-1.35553	.98758
16.0 -	120.0	-7.20264	-1.71704	.99714
17.0 -	140.0	-11.58822	-1.7555	.98114
18.0 -	160.0	-6.57263	-1.96451	.99264
19.0 -	180.0	-10.04838	-1.12053	.97478

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $8.23\text{E-01} - 1.35\text{E 00}$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	1.0	9.22130	-2.53636	.99632
1.0	1.0	1.35400	-1.71072	.98016
2.0	1.0	0.82245	-1.93562	.98398
3.0	7.0	-1.73177	-1.20638	.99166
4.0	10.0	-4.07281	-0.77945	.98521
5.0	15.0	-7.04072	-0.98778	.99822
6.0	20.0	-3.81518	-1.00995	.99905
7.0	30.0	-5.18058	-0.80677	.99465
8.0	40.0	-5.42358	-0.84476	.97371
9.0	50.0	-5.37570	-0.66634	.99871
10.0	60.0	-5.92652	-0.62132	.98894
11.0	70.0	-7.05720	-0.64723	.99700
12.0	80.0	-5.69876	-0.99219	.99745
13.0	90.0	-8.59618	-0.35914	.99210
14.0	100.0	-7.18905	-0.73338	.98844
15.0	120.0	-6.32001	-0.98006	.99608
16.0	140.0	-7.20748	-0.78885	.99878
17.0	160.0	-7.45221	-0.63943	.98134
18.0	180.0	-8.13768	-0.46840	.98887

SOURCE ENERGY $5.00\text{E-01} - 8.23\text{E-01}$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	1.0	8.10296	-2.31653	.99833
1.0	1.0	1.20206	-1.88842	.90276
2.0	1.0	1.41209	-1.10908	.98104
3.0	7.0	-1.44171	-1.21207	.99130
4.0	10.0	-1.74247	-1.24244	.98100
5.0	15.0	-1.76671	-1.24466	.99130
6.0	20.0	-1.77997	-1.24466	.99130
7.0	30.0	-1.78997	-1.24466	.99130
8.0	40.0	-1.80944	-1.24466	.99130
9.0	50.0	-1.82944	-1.24466	.99130
10.0	60.0	-1.84944	-1.24466	.99130
11.0	70.0	-1.86944	-1.24466	.99130
12.0	80.0	-1.88944	-1.24466	.99130
13.0	90.0	-1.90944	-1.24466	.99130
14.0	100.0	-1.92944	-1.24466	.99130
15.0	120.0	-1.94944	-1.24466	.99130
16.0	140.0	-1.96944	-1.24466	.99130
17.0	160.0	-1.98944	-1.24466	.99130
18.0	180.0	-2.00944	-1.24466	.99130

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $3.03\text{E-}01 - 5.00\text{E-}01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	7.52582	-2.13664	.01755	.98578
1.0 - 2.0	1.88214	-1.89804	.01244	.98582
2.0 - 3.0	-.51368	-.53086	.01231	.98578
3.0 - 5.0	-1.26233	-1.39963	.01204	.98555
5.0 - 7.0	-.62295	-.98777	.01198	.99110
7.0 - 10.0	-.556264	-1.06170	.01181	.99058
10.0 - 15.0	-4.35697	-.80493	.01151	.99554
15.0 - 20.0	-.532693	-.66500	.01482	.99335
20.0 - 30.0	-.670743	-.39075	.01572	.98834
30.0 - 40.0	-.532068	-.95015	.01100	.99811
40.0 - 50.0	-.513217	-1.06713	.01000	.99970
50.0 - 60.0	-.659536	-.72486	.01193	.99870
60.0 - 70.0	-.805497	-.41395	.01353	.99767
70.0 - 80.0	-.623980	-.94446	.01023	.99943
80.0 - 90.0	-.718905	-.62290	.01365	.99495
90.0 - 100.0	-.730641	-.74524	.01131	.99863
100.0 - 120.0	-.767571	-.51651	.01498	.98899
120.0 - 140.0	-.822888	-.580020	.01200	.99897
140.0 - 160.0	-.692014	-.88343	.01113	.99729
160.0 - 180.0	-.859524	-.50291	.01357	.99797

SOURCE ENERGY $1.84\text{E-}01 - 3.03\text{E-}01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	6.80886	-2.03420	.01921	.98021
1.0 - 2.0	1.64045	-2.08370	.00901	.96412
2.0 - 3.0	-.91540	-1.53681	.01277	.97493
3.0 - 5.0	-.29808	-.32234	.01145	.99125
5.0 - 7.0	-.297592	-1.27070	.01169	.99007
7.0 - 10.0	-.484877	-.83961	.01327	.99659
10.0 - 15.0	-.561868	-.74283	.01320	.99796
15.0 - 20.0	-.730209	-.39280	.01440	.99162
20.0 - 30.0	-.680563	-.61180	.01288	.99867
30.0 - 40.0	-.617215	-.81022	.01255	.99595
40.0 - 50.0	-.788458	-.46542	.01360	.99779
50.0 - 60.0	-.765064	-.51643	.01464	.99707
60.0 - 70.0	-.786075	-.54154	.01439	.99827
70.0 - 80.0	-.843747	-.37444	.01579	.99692
80.0 - 90.0	-.779740	-.61135	.01365	.99811
90.0 - 100.0	-.831590	-.48415	.01475	.99731
100.0 - 120.0	-.90362	-.052213	.01842	.98629
120.0 - 140.0	-.68670	-.12415	.01849	.97769
140.0 - 160.0	-.683643	-.99729	.01182	.99736
160.0 - 180.0	-10.85096	.05068	.01883	.99250

TABLE IV.|| (continued)

Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)SOURCE ENERGY $6.76\text{E-02} - 1.84\text{E-01}$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	7.43626	-2.48994	.01422	.99911
1.0 - 2.0	.93444	-2.07323	.00955	.97967
2.0 - 3.0	-.93180	-.67257	.01261	.98563
3.0 - 4.0	-4.63634	-.67432	.02112	.97438
4.0 - 5.0	-5.56882	-.63650	.01836	.99421
5.0 - 6.0	-4.11181	-.04497	.01606	.99637
6.0 - 7.0	-4.78416	-.02896	.01451	.99753
7.0 - 8.0	-5.73572	-.81304	.01559	.99506
8.0 - 9.0	-6.22144	-.75076	.01583	.99358
9.0 - 10.0	-7.59802	-.51062	.01692	.99840
10.0 - 11.0	-7.06420	-.55352	.01585	.99852
11.0 - 12.0	-7.60735	-.61165	.01623	.99820
12.0 - 13.0	-9.24743	-.21503	.01887	.99592
13.0 - 14.0	-8.53634	-.45704	.01713	.99808
14.0 - 15.0	-.01825	-.70194	.01404	.99931
15.0 - 16.0	-9.69125	-.13723	.02052	.99618
16.0 - 17.0	-9.89925	-.10553	.02063	.99115
17.0 - 18.0	-8.49384	-.61467	.01610	.99871
18.0 - 19.0	-8.67084	-.91009	.01331	.99826
19.0 - 20.0	-10.62485	.05380	.02307	.98697

SOURCE ENERGY $2.48\text{E-02} - 6.76\text{E-02}$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	4.00964	-1.43323	.03751	.97308
1.0 - 2.0	.9000660	-.21100	.00117	.95598
2.0 - 3.0	-.8000544	-.10100	.00013	.99874
3.0 - 4.0	-.7900397	-.10100	.00013	.99018
4.0 - 5.0	-.7000450	-.10100	.00013	.99020
5.0 - 6.0	-.6000400	-.10100	.00013	.99020
6.0 - 7.0	-.5000350	-.10100	.00013	.99020
7.0 - 8.0	-.4000300	-.10100	.00013	.99020
8.0 - 9.0	-.3000250	-.10100	.00013	.99020
9.0 - 10.0	-.2000200	-.10100	.00013	.99020
10.0 - 11.0	-.1000150	-.10100	.00013	.99020
11.0 - 12.0	-.0000100	-.10100	.00013	.99020
12.0 - 13.0	-.1000050	-.10100	.00013	.99020
13.0 - 14.0	-.2000000	-.10100	.00013	.99020
14.0 - 15.0	-.3000050	-.10100	.00013	.99020
15.0 - 16.0	-.4000100	-.10100	.00013	.99020
16.0 - 17.0	-.5000150	-.10100	.00013	.99020
17.0 - 18.0	-.6000200	-.10100	.00013	.99020
18.0 - 19.0	-.7000250	-.10100	.00013	.99020
19.0 - 20.0	-.8000300	-.10100	.00013	.99020
20.0 - 21.0	-.9000350	-.10100	.00013	.99020
21.0 - 22.0	-.70491	-.60009	.00238	.99159

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $9.12\text{E-}03 - 2.48\text{E-}02$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	5.35965	-2.30466	.02635	.99500
1.0 - 2.0	-1.85438	-1.64396	.01955	.98306
2.0 - 3.0	-1.34637	-1.96747	.01621	.99312
3.0 - 5.0	-2.75576	-1.70917	.01718	.99292
5.0 - 7.0	-3.66294	-1.48930	.01883	.98952
7.0 - 10.0	-6.22184	-.91990	.02106	.99490
10.0 - 15.0	-6.51298	-.86439	.02324	.99792
15.0 - 20.0	-6.03601	-1.09921	.02033	.99705
20.0 - 30.0	-7.88687	-.62199	.02333	.99524
30.0 - 40.0	-7.888324	-.78534	.02048	.99969
40.0 - 50.0	-7.89514	-.80678	.02118	.99771
50.0 - 60.0	-8.46468	-.74310	.02062	.99931
60.0 - 70.0	-8.84180	-.65306	.02205	.99897
70.0 - 80.0	-7.88852	-.99113	.01964	.99647
80.0 - 90.0	-8.96107	-.60782	.02487	.99613
90.0 - 100.0	-8.71496	-.78568	.02232	.99917
100.0 - 120.0	-9.03000	-.71197	.02344	.99684
120.0 - 140.0	-9.87680	-.50897	.02513	.99759
140.0 - 160.0	-9.42088	-.71241	.02202	.97924
160.0 - 180.0	-9.60334	-.74575	.02095	.99578

SOURCE ENERGY $3.35\text{E-}03 - 9.12\text{E-}03$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	7.35574	-3.38484	.01534	.95778
1.0 - 2.0	-1.20790	-2.06728	.02164	.98391
2.0 - 3.0	-1.21169	-2.29598	.01583	.95962
3.0 - 5.0	-3.95152	-1.633501	.02006	.98513
5.0 - 7.0	-4.69443	-1.49769	.01967	.97072
7.0 - 10.0	-5.48689	-1.27093	.02283	.99145
10.0 - 15.0	-7.52082	-.73204	.02086	.99147
15.0 - 20.0	-7.94630	-.69574	.02692	.99557
20.0 - 30.0	-7.39079	-1.01873	.02213	.99941
30.0 - 40.0	-7.86859	-1.02639	.02087	.99662
40.0 - 50.0	-8.94595	-.73657	.02384	.99866
50.0 - 60.0	-8.69645	-.85057	.02266	.99847
60.0 - 70.0	-9.89769	-.61033	.02375	.99675
70.0 - 80.0	-9.48117	-.70360	.02427	.99700
80.0 - 90.0	-9.61577	-.75102	.02355	.99749
90.0 - 100.0	-9.31783	-.89691	.02190	.99909
100.0 - 120.0	-9.39635	-.88162	.02250	.99948
120.0 - 140.0	-10.59871	-.44247	.02820	.98861
140.0 - 160.0	-11.33757	-.35170	.02783	.99570
160.0 - 180.0	-10.99609	-.37323	.03047	.98728

TABLE IV. (continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $1.00\text{E-03} - 3.35\text{E-03}$ (MEV)

ANGLE (DEG)		A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	-	1.0	4.11061	-2.52256	.99781
1.0	-	2.0	-3.01635	-1.77615	.97478
2.0	-	3.0	-4.82241	-1.26912	.99025
3.0	-	4.0	-4.75477	-1.54326	.99132
4.0	-	5.0	-6.20932	-1.18098	.99205
5.0	-	6.0	-7.06406	-1.08133	.99705
6.0	-	7.0	-6.98916	-1.03949	.99778
7.0	-	8.0	-8.40852	-0.92405	.99854
8.0	-	9.0	-8.53149	-0.96768	.99817
9.0	-	10.0	-8.97996	-0.91987	.99795
10.0	-	11.0	-9.15976	-0.96143	.99890
11.0	-	12.0	-11.30252	-0.30461	.99453
12.0	-	13.0	-10.13361	-0.77175	.99716
13.0	-	14.0	-10.51014	-0.68648	.99878
14.0	-	15.0	-10.30633	-0.75672	.99870
15.0	-	16.0	-10.88196	-0.66406	.99896
16.0	-	17.0	-10.93105	-0.63006	.99747
17.0	-	18.0	-11.89036	-0.37191	.99701
18.0	-	19.0	-10.86911	-0.80451	.99882
19.0	-	20.0	-11.28620	-0.69302	.99600

TABLE V. CURVE FIT COEFFICIENTS FOR SECONDARY GAMMA-RAY ENERGY DEPOSITION
VS RANGE BY LINE BEAM NEUTRON SOURCES

Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)

SOURCE ENERGY $1.35E\ 01 - 1.50E\ 01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	17.95058	-5.06201	.00061	.90930
1.0 - 2.0	10.34301	-3.77223	-.00105	.84083
2.0 - 3.0	-3.22689	-1.33355	.00146	.61311
3.0 - 5.0	2.36154	-2.21193	.00180	.84140
5.0 - 7.0	-6.80270	-.41572	.00530	.86447
7.0 - 10.0	-2.26787	-1.635284	.00429	.98544
10.0 - 15.0	-1.17026	-1.63523	.00250	.94884
15.0 - 20.0	-4.88169	-.90584	.00378	.95883
20.0 - 30.0	-2.77669	-1.35445	.00311	.99290
30.0 - 40.0	-3.35790	-1.30136	.00329	.99467
40.0 - 50.0	-5.50339	-.92667	.00340	.98662
50.0 - 60.0	-6.02387	-.87309	.00382	.99430
60.0 - 70.0	-6.31066	-.84846	.00424	.98414
70.0 - 80.0	-6.04042	-.95256	.00401	.98097
80.0 - 90.0	-9.83301	-.23498	.00523	.92590
90.0 - 100.0	-8.96184	-.44098	.00488	.98332
100.0 - 120.0	-9.61474	-.26388	.00614	.96013
120.0 - 140.0	-4.17250	-1.48226	.00313	.97478
140.0 - 160.0	-10.34341	-.15806	.00645	.94203
160.0 - 180.0	-28.46542	3.36884	.01203	.76698

SOURCE ENERGY $1.20E\ 01 - 1.35E\ 01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	1.00000	-3.31018	.64065	.79355
1.0 - 2.0	-20.21802	2.77789	.01559	.83778
2.0 - 3.0	-20.89356	2.21162	.00887	.67106
3.0 - 5.0	-4.46695	-1.42776	.00383	.97570
5.0 - 7.0	-13.94145	.92178	.00671	.80983
7.0 - 10.0	-16.61588	1.52025	.00834	.85388
10.0 - 15.0	-4.26579	-.95616	.00405	.95045
15.0 - 20.0	-4.68618	-.66490	.00446	.98941
20.0 - 30.0	-5.91406	-.71212	.00443	.97588
30.0 - 40.0	-6.05777	-.74058	.00435	.98300
40.0 - 50.0	-9.26711	-.17787	.00541	.94134
50.0 - 60.0	-6.81645	-.67839	.00453	.98134
60.0 - 70.0	-3.24639	-1.50155	.00267	.98355
70.0 - 80.0	-6.18267	-.88692	.00399	.98693
80.0 - 90.0	-11.98244	-.21144	.00600	.94545
90.0 - 100.0	-4.19675	-1.35171	.00347	.97149
100.0 - 120.0	-4.11207	-1.00888	.00321	.99570
120.0 - 140.0	-6.80384	-.91511	.00415	.99291
140.0 - 160.0	-6.50814	-.00248	.00433	.95858
160.0 - 180.0	-4.83062	-1.59547	.00204	.80235

TABLE V. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)SOURCE ENERGY $1.00E\ 01 - 1.20E\ 01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	1.0	15.22325	-4.76831	.77188
1.0	2.0	7.55548	-3.09764	.88106
2.0	3.0	11.24074	-4.18920	.89533
3.0	4.0	7.3153	-1.05255	.96756
4.0	5.0	-14.14404	2.09260	.94138
5.0	6.0	-19.77605	-1.05150	.81116
6.0	7.0	-7.16623	-2.6405	.98929
7.0	8.0	-7.54673	-2.7914	.98181
8.0	9.0	-8.01597	-1.04448	.96555
9.0	10.0	-4.79952	-1.41113	.98303
10.0	11.0	-3.39648	-1.43579	.96956
11.0	12.0	-8.09801	-3.35186	.94279
12.0	13.0	-1.98673	-1.41586	.93092
13.0	14.0	-3.92501	-1.41896	.95931
14.0	15.0	-8.79718	-2.99889	.88058
15.0	16.0	-25.59816	2.99889	.75052
16.0	17.0	-1.34449	-1.61056	.98192
17.0	18.0	-7.25489	-1.80749	.98694
18.0	19.0	-6.04448	-1.14463	.94238
19.0	20.0	-21.83496	2.26553	.90403

SOURCE ENERGY $7.79E\ 00 - 1.00E\ 01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0	1.0	-8.17096	5.4770	.01209
1.0	2.0	1.70675	-2.7170	.00207
2.0	3.0	1.70589	-1.7160	.00201
3.0	4.0	-1.70577	-1.4120	.00244
4.0	5.0	-1.70537	-1.2050	.00243
5.0	6.0	-1.70500	-1.0420	.00243
6.0	7.0	-1.70474	-0.8000	.00243
7.0	8.0	-1.70449	-0.5400	.00243
8.0	9.0	-1.70425	-0.3000	.00243
9.0	10.0	-1.70402	-0.0400	.00243
10.0	11.0	-1.70379	0.1900	.00243
11.0	12.0	-1.70357	0.4400	.00243
12.0	13.0	-1.70335	0.6900	.00243
13.0	14.0	-1.70313	0.9400	.00243
14.0	15.0	-1.70291	1.1900	.00243
15.0	16.0	-1.70269	1.4400	.00243
16.0	17.0	-1.70247	1.6900	.00243
17.0	18.0	-1.70225	1.9400	.00243
18.0	19.0	-1.70203	2.1900	.00243
19.0	20.0	-1.70181	2.4400	.00243
20.0	21.0	-1.70159	2.6900	.00243
21.0	22.0	-1.70137	2.9400	.00243
22.0	23.0	-1.70115	3.1900	.00243
23.0	24.0	-1.70093	3.4400	.00243
24.0	25.0	-1.70071	3.6900	.00243
25.0	26.0	-1.70049	3.9400	.00243
26.0	27.0	-1.70027	4.1900	.00243
27.0	28.0	-1.70005	4.4400	.00243
28.0	29.0	-1.69983	4.6900	.00243
29.0	30.0	-1.69961	4.9400	.00243
30.0	31.0	-1.69939	5.1900	.00243
31.0	32.0	-1.69917	5.4400	.00243
32.0	33.0	-1.69895	5.6900	.00243
33.0	34.0	-1.69873	5.9400	.00243
34.0	35.0	-1.69851	6.1900	.00243
35.0	36.0	-1.69829	6.4400	.00243
36.0	37.0	-1.69807	6.6900	.00243
37.0	38.0	-1.69785	6.9400	.00243
38.0	39.0	-1.69763	7.1900	.00243
39.0	40.0	-1.69741	7.4400	.00243
40.0	41.0	-1.69719	7.6900	.00243
41.0	42.0	-1.69697	7.9400	.00243
42.0	43.0	-1.69675	8.1900	.00243
43.0	44.0	-1.69653	8.4400	.00243
44.0	45.0	-1.69631	8.6900	.00243
45.0	46.0	-1.69609	8.9400	.00243
46.0	47.0	-1.69587	9.1900	.00243
47.0	48.0	-1.69565	9.4400	.00243
48.0	49.0	-1.69543	9.6900	.00243
49.0	50.0	-1.69521	9.9400	.00243
50.0	51.0	-1.69500	10.1900	.00243
51.0	52.0	-1.69478	10.4400	.00243
52.0	53.0	-1.69456	10.6900	.00243
53.0	54.0	-1.69434	10.9400	.00243
54.0	55.0	-1.69412	11.1900	.00243
55.0	56.0	-1.69390	11.4400	.00243
56.0	57.0	-1.69368	11.6900	.00243
57.0	58.0	-1.69346	11.9400	.00243
58.0	59.0	-1.69324	12.1900	.00243
59.0	60.0	-1.69302	12.4400	.00243
60.0	61.0	-1.69280	12.6900	.00243
61.0	62.0	-1.69258	12.9400	.00243
62.0	63.0	-1.69236	13.1900	.00243
63.0	64.0	-1.69214	13.4400	.00243
64.0	65.0	-1.69192	13.6900	.00243
65.0	66.0	-1.69170	13.9400	.00243
66.0	67.0	-1.69148	14.1900	.00243
67.0	68.0	-1.69126	14.4400	.00243
68.0	69.0	-1.69104	14.6900	.00243
69.0	70.0	-1.69082	14.9400	.00243
70.0	71.0	-1.69060	15.1900	.00243
71.0	72.0	-1.69038	15.4400	.00243
72.0	73.0	-1.69016	15.6900	.00243
73.0	74.0	-1.69000	15.9400	.00243
74.0	75.0	-1.68978	16.1900	.00243
75.0	76.0	-1.68956	16.4400	.00243
76.0	77.0	-1.68934	16.6900	.00243
77.0	78.0	-1.68912	16.9400	.00243
78.0	79.0	-1.68890	17.1900	.00243
79.0	80.0	-1.68868	17.4400	.00243
80.0	81.0	-1.68846	17.6900	.00243
81.0	82.0	-1.68824	17.9400	.00243
82.0	83.0	-1.68802	18.1900	.00243
83.0	84.0	-1.68780	18.4400	.00243
84.0	85.0	-1.68758	18.6900	.00243
85.0	86.0	-1.68736	18.9400	.00243
86.0	87.0	-1.68714	19.1900	.00243
87.0	88.0	-1.68692	19.4400	.00243
88.0	89.0	-1.68670	19.6900	.00243
89.0	90.0	-1.68648	19.9400	.00243
90.0	91.0	-1.68626	20.1900	.00243
91.0	92.0	-1.68604	20.4400	.00243
92.0	93.0	-1.68582	20.6900	.00243
93.0	94.0	-1.68560	20.9400	.00243
94.0	95.0	-1.68538	21.1900	.00243
95.0	96.0	-1.68516	21.4400	.00243
96.0	97.0	-1.68494	21.6900	.00243
97.0	98.0	-1.68472	21.9400	.00243
98.0	99.0	-1.68450	22.1900	.00243
99.0	100.0	-1.68428	22.4400	.00243

TABLE V. (Continued)
Energy Deposition (keV m^{-3} /source neutron)

SOURCE ENERGY 6.07×10^6 - 7.79×10^6 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0	1.0	-3.45900	-.31823	.01446
1.0	2.0	6.83959	-.04338	.00141
2.0	3.0	-3.07880	-.213132	-.00024
3.0	4.0	-4.47054	-.124705	.00283
4.0	5.0	.77737	-.1.91803	.00306
5.0	6.0	-5.08988	-.90922	.00409
6.0	7.0	-1.06649	-.1.74924	.00221
7.0	8.0	-3.39483	-.1.37453	.00266
8.0	10.0	-3.38127	-.1.39797	.00301
9.0	12.0	-11.90734	-.24837	.00593
10.0	15.0	-14.82586	-.80592	.00748
11.0	20.0	-6.57749	-.1.01772	.00315
12.0	30.0	-12.75872	-.1.4160	.00522
13.0	40.0	-6.40718	-.1.06417	.00398
14.0	50.0	-6.85888	-.1.04045	.00399
15.0	60.0	-15.05737	-.47537	.00566
16.0	70.0	-8.16040	-.922280	.00339
17.0	80.0	-21.68275	1.96972	.01025
18.0	90.0	-13.03674	-.12624	.00460
19.0	100.0	-18.98087	.79591	.00514
20.0	120.0			
21.0	140.0			
22.0	160.0			
23.0	180.0			

SOURCE ENERGY 3.68×10^6 - 6.07×10^6 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0	1.0	6.14822	-.45149	.00167
1.0	2.0	6.62709	-.79535	-.00051
2.0	3.0	9.20331	-.4.41967	-.00318
3.0	4.0	-19.22043	1.30584	.00762
4.0	5.0	-6.44142	-.1.12156	.00301
5.0	6.0	-15.66614	-.83530	-.00778
6.0	7.0	-8.13581	-.71248	.00416
7.0	8.0	-2.55695	-.1.89721	.00187
8.0	9.0	-12.87175	-.162251	.00559
9.0	10.0	-15.86309	-.806229	-.00731
10.0	12.0	-8.45208	-.99867	.00222
11.0	15.0	-10.48694	-.423336	.00447
12.0	20.0	-6.56655	-.682669	.00407
13.0	30.0	-8.21473	-.1.162882	.00228
14.0	40.0	-5.49991	-.1.63906	.00182
15.0	50.0	-20.97855	1.39247	.00720
16.0	60.0	-18.55608	-.91033	.00680
17.0	70.0	-9.90320	-.83663	.00316
18.0	80.0	-10.36172	-.91269	.00223
19.0	90.0	-33.33015	3.47907	.00973
20.0	100.0			
21.0	120.0			
22.0	140.0			
23.0	160.0			
24.0	180.0			

TABLE V. (Continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $2.86 \times 10^6 - 3.68 \times 10^6$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	29.44418	-8.73186	.01118	.86613
1.0 - 2.0	15.35544	-6.39423	-.01041	.81849
2.0 - 3.0	2.22863	-.3.11457	.00230	.81612
3.0 - 4.0	-.7.96255	-.1.11154	.00375	.72771
4.0 - 5.0	-1.9.32416	1.00344	.00706	.65827
5.0 - 6.0	-18.65745	.75207	.00428	.64614
6.0 - 7.0	-23.72998	1.92272	.00797	.67566
7.0 - 8.0	-5.63345	-.1.96946	-.00093	.80693
8.0 - 9.0	-10.16302	-.1.05772	.00044	.80831
9.0 - 10.0	16.97334	.41602	.00375	.60722
10.0 - 11.0	11.81569	-.52241	.00263	.93700
11.0 - 12.0	18.14915	.62947	.00414	.76056
12.0 - 13.0	10.76428	-.92206	.00114	.86933
13.0 - 14.0	30.29732	3.02589	.00886	.78984
14.0 - 15.0	12.10571	-.73431	.00110	.77016
15.0 - 16.0	17.32938	.34123	.00342	.76265
16.0 - 17.0	10.47910	-.92129	.00187	.95915
17.0 - 18.0	31.17006	3.23569	.01002	.71477
18.0 - 19.0	23.79617	1.67248	.00672	.84191
19.0 - 20.0	33.73157	3.43422	.00906	.70187

SOURCE ENERGY $2.23 \times 10^6 - 2.86 \times 10^6$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	4.46554	-3.41394	.00154	.75423
1.0 - 2.0	-26.10715	2.01078	.00643	.52617
2.0 - 3.0	30.94707	-.8.01078	.0008620	.63069
3.0 - 4.0	8.669924	-.4.00862	.0003960	.589920
4.0 - 5.0	-.6.99344	-.1.00086	.0001414	.70622
5.0 - 6.0	-14.31962	-.3.00014	.0002775	.67162
6.0 - 7.0	7.30127	-.1.00027	.0001911	.82312
7.0 - 8.0	-.2.00019	-.1.00027	.0001444	.639435
8.0 - 9.0	-11.95261	-.6.00014	.0002721	.74279
9.0 - 10.0	46.02268	-.6.00027	.0001448	.57248
10.0 - 11.0	11.74602	-.6.00027	.0001448	.47149
11.0 - 12.0	43.90855	-.6.00027	.0001448	.62435
12.0 - 13.0	14.00891	-.1.00027	.0001448	.50019
13.0 - 14.0	8.00911	1.41767	.0005222	.73707
14.0 - 15.0	1.00911	1.15556	.0005447	.77136
15.0 - 16.0	1.00911	2.16229	.000707	.71373
16.0 - 17.0	1.00911	4.10220	.0003460	.62501
17.0 - 18.0	1.00911	1.95686	.000720	.89126
18.0 - 19.0	27.19414	2.35454	.000791	.77159
19.0 - 20.0	17.92450	.16905	.00207	.32494

TABLE V. (Continued)

Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)SOURCE ENERGY $1.74 \times 10^0 - 2.23 \times 10^0$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 -	1.0	4.46554	-3.41394	.00154
1.00 -	2.0	-26.10715	2.01078	.00943
2.00 -	3.0	-3.54559	-3.24033	-.00759
3.00 -	4.0	-2.92374	-3.03448	-.00374
4.00 -	5.0	-41.65070	4.39700	.00690
5.00 -	6.0	-29.71843	2.54439	.00509
6.00 -	7.0	-20.84123	1.09024	.00402
7.00 -	8.0	-48.16158	6.29468	.01207
8.00 -	9.0	-26.63837	2.26709	.00660
9.00 -	10.0	-24.67165	1.96197	.00647
10.00 -	11.0	-21.87308	1.35033	.00507
11.00 -	12.0	-23.15964	1.69286	.00636
12.00 -	13.0	-28.66045	2.85381	.00898
13.00 -	14.0	-24.26447	1.95705	.00753
14.00 -	15.0	-21.60052	1.39659	.00621
15.00 -	16.0	-20.38554	1.11604	.00549
16.00 -	17.0	-19.29689	.90587	.00542
17.00 -	18.0	-33.73405	3.63645	.00954
18.00 -	19.0	-25.12605	1.98834	.00710
19.00 -	20.0	-40.82001	4.85590	.01121
20.00 -	21.0			.71991

SOURCE ENERGY $1.35 \times 10^0 - 1.74 \times 10^0$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 -	1.0	4.46554	-3.41394	.00154
1.00 -	2.0	-28.17532	2.37616	.00753
2.00 -	3.0	-3.54559	-3.24033	-.00759
3.00 -	4.0	-24.20787	3.96599	.00031
4.00 -	5.0	-31.54347	3.02637	.00697
5.00 -	6.0	-41.15851	4.94964	.01013
6.00 -	7.0	-25.68736	1.91980	.00506
7.00 -	8.0	-31.56284	3.00008	.00638
8.00 -	9.0	-19.82060	.900094	.00379
9.00 -	10.0	-31.66020	3.18720	.00764
10.00 -	11.0	-29.88472	3.03579	.00866
11.00 -	12.0	-27.85117	2.54020	.00747
12.00 -	13.0	-25.62070	2.06359	.00648
13.00 -	14.0	-29.67366	2.97114	.00879
14.00 -	15.0	-27.43690	2.38506	.00685
15.00 -	16.0	-29.81731	2.96799	.00891
16.00 -	17.0	-36.39114	4.29071	.01141
17.00 -	18.0	-27.96132	2.67195	.00896
18.00 -	19.0	-15.12101	.04596	.00372
19.00 -	20.0	-29.81598	2.84239	.00876
20.00 -	21.0			.64312

TABLE V. (Continued)

Energy Deposition (keV m^{-3} /source neutron)

SOURCE ENERGY 8.23E-01 - 1.35E 00 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	4.46554	-3.41394	.00154	.75423
1.0 - 2.0	-28.17532	2.37616	.00753	.37809
2.0 - 3.0	-22.13576	1.09621	.00349	.57486
3.0 - 5.0	-21.40623	.60074	-.00069	.31964
5.0 - 7.0	-37.63358	4.822060	.00946	.47206
7.0 - 10.0	-21.82706	1.34535	.00545	.63393
10.0 - 15.0	-30.16907	3.13810	.00963	.76154
15.0 - 20.0	-16.77814	3.36677	.00371	.52847
20.0 - 30.0	-30.83749	3.11984	.00793	.47876
30.0 - 40.0	-23.42879	1.67592	.00551	.54119
40.0 - 50.0	-24.60034	1.97868	.00670	.69992
50.0 - 60.0	-24.13455	1.92711	.00689	.80062
60.0 - 70.0	-28.89185	2.89925	.00895	.74856
70.0 - 80.0	-24.52106	2.03788	.00751	.68580
80.0 - 90.0	-29.47966	2.94109	.00880	.83245
90.0 - 100.0	-22.99457	1.69457	.00667	.76825
100.0 - 120.0	-19.63179	1.10521	.00631	.86189
120.0 - 140.0	-19.25984	0.92028	.00557	.91289
140.0 - 160.0	-12.03422	-0.55204	.00247	.69136
160.0 - 180.0	-32.14824	3.22826	.00832	.50046

SOURCE ENERGY 5.00E-01 - 8.23E-01 (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	4.46554	-3.41394	.00154	.75423
1.0 - 2.0	-34.50897	2.73052	.00188	.60890
2.0 - 3.0	-27.07457	2.54396	.01871	.70479
3.0 - 5.0	-9.820851	15.59061	.02803	.90735
5.0 - 7.0	-13.69677	-3.7769	.00133	.25354
7.0 - 10.0	-6.270663	8.05714	.01515	.83138
10.0 - 15.0	-25.10934	1.24549	.00376	.33892
15.0 - 20.0	-40.20674	5.16198	.01273	.77899
20.0 - 30.0	-24.73386	1.03884	.00642	.51583
30.0 - 40.0	-29.77634	2.99811	.00880	.73289
40.0 - 50.0	-27.45418	2.695446	.00855	.72688
50.0 - 60.0	-16.94618	.51874	.00452	.60666
60.0 - 70.0	-14.95028	1.7257	.00422	.83034
70.0 - 80.0	-23.32523	1.93274	.00010	.05439
80.0 - 90.0	-22.320171	1.58069	.00688	.48866
90.0 - 100.0	-19.32802	1.06988	.00631	.92922
100.0 - 120.0	-23.06557	1.82226	.00629	.83396
120.0 - 140.0	-18.81754	1.96024	.00879	.96198
140.0 - 160.0	-25.27235	2.21116	.00006	.83218
160.0 - 180.0	-8.89604	-1.36177	.00006	.61403

TABLE V. (Continued)
Energy Deposition ($\text{keV m}^{-3}/\text{source neutron}$)

SOURCE ENERGY $3.03E-01 - 5.00E-01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	4.46554	-3.41394	.00154	.75423
1.0 - 2.0	-34.73052	.00188	.60890	
2.0 - 3.0	#*#*#*#*	.02707	.68732	
3.0 - 4.0	15.90916	.00704	.64065	
4.0 - 5.0	-27.53011	.00317	.59034	
5.0 - 6.0	2.30284	.01458	.86055	
6.0 - 7.0	-12.78729	.00981	.83642	
7.0 - 8.0	-43.71947	.00581	.66995	
8.0 - 9.0	5.75677	.01166	.71984	
9.0 - 10.0	-31.83612	.00854	.79221	
10.0 - 11.0	3.41333	.00659	.74813	
11.0 - 12.0	-18.72096	.00498	.64112	
12.0 - 13.0	.87962	.00760	.88939	
13.0 - 14.0	-11.82998	.00708	.77929	
14.0 - 15.0	3.01544	.00779	.94269	
15.0 - 16.0	-23.27522	.00999	.94804	
16.0 - 17.0	1.2026778	.00980	.72445	
17.0 - 18.0	-20.26778	.00789	.90953	
18.0 - 19.0	1.233339	.00892	.70073	
19.0 - 20.0	-13.21315	.00448		
20.0 - 21.0	20.19963	.00320		
21.0 - 22.0	-20.95857	.013448		
22.0 - 23.0	21.90898	.00799		
23.0 - 24.0	-21.90311	.00999		
24.0 - 25.0	26.08461	.00980		
25.0 - 26.0	-26.65967	.00789		
26.0 - 27.0	2.49932	.00892		
27.0 - 28.0	-22.65967	.007272		
28.0 - 29.0	1.75272	.00892		
29.0 - 30.0	-25.98244	2.44616	.70073	

SOURCE ENERGY $1.84E-01 - 3.03E-01$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0 - 1.0	4.46554	-3.41394	.00154	.75423
1.0 - 2.0	-61.19792	.01998	.71429	
2.0 - 3.0	-41.57230	.02465	.82560	
3.0 - 4.0	5.60655	.01459	.74486	
4.0 - 5.0	-21.65240	.01846	.92466	
5.0 - 6.0	-17.20084	.00867	.74105	
6.0 - 7.0	-24.55721	.01409	.88943	
7.0 - 8.0	-38.36430	.00886	.69062	
8.0 - 9.0	-27.50607	.0071	.89726	
9.0 - 10.0	-40.46304	.01293	.78550	
10.0 - 11.0	-37.64941	.01086	.91807	
11.0 - 12.0	-30.96471	.00875	.82584	
12.0 - 13.0	-23.81146	.00855	.95311	
13.0 - 14.0	-22.97946	.00625	.75003	
14.0 - 15.0	-18.81827	.00628	.98223	
15.0 - 16.0	-14.44363	.00480	.95394	
16.0 - 17.0	-12.77850	.00481	.98652	
17.0 - 18.0	-12.22890	.00264	.89802	
18.0 - 19.0	-18.55672	.00671	.73146	
19.0 - 20.0	-22.70496	1.70315	.00775	
20.0 - 21.0	-28.08653	2.63827	.00872	

TABLE V. (Continued)
Energy Deposition (keV m^{-3} /source neutron)

SOURCE ENERGY $6.76\text{E-02} - 1.84\text{E-01}$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	4.46554	-3.41394	.00154	.75423
1.00 - 12.00	-61.19792	.920379	.01998	.71429
2.00 - 25.00	-86.01190	13.03695	.02246	.74926
3.00 - 37.00	-47.32278	5.74001	.01099	.39280
4.00 - 50.00	-21.06335	1.16398	.00610	.61696
5.00 - 62.00	-42.29265	5.89385	.01805	.93141
6.00 - 74.00	-37.31529	4.62258	.01337	.91760
7.00 - 87.00	-38.10509	4.885130	.01386	.84758
8.00 - 100.00	-31.22289	3.558061	.01153	.89115
9.00 - 113.00	-46.40845	6.57670	.01732	.77016
10.00 - 126.00	-16.05611	2.59832	.00619	.94083
11.00 - 139.00	-24.32520	2.33927	.00961	.90365
12.00 - 152.00	-26.10579	2.64557	.01011	.79953
13.00 - 165.00	-23.99556	2.21436	.00953	.73155
14.00 - 178.00	-22.11258	1.64444	.00729	.82416
15.00 - 190.00	-22.86324	1.94246	.00901	.81713
16.00 - 200.00	-20.34341	1.41454	.00794	.95364
17.00 - 212.00	-20.80930	1.56408	.00882	.92786
18.00 - 224.00	-20.46495	1.40048	.00816	.84716
19.00 - 236.00	-20.64233	1.46568	.00905	.87600

SOURCE ENERGY $2.48\text{E-02} - 6.76\text{E-02}$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0.0 - 1.0	4.46554	-3.41394	.00154	.75423
1.00 - 13.00	0.00000	0.00000	.00000	.00000
2.00 - 25.00	-21.98152	1.53361	.01015	.94054
3.00 - 37.00	-4.65197	-1.63424	.00485	.76321
4.00 - 50.00	-5.47458	-1.71742	.00275	.68273
5.00 - 62.00	-7.16936	-1.01734	.00487	.83584
6.00 - 74.00	-11.93536	-1.35143	.00418	.74316
7.00 - 87.00	-21.93401	1.58056	.00723	.69988
8.00 - 100.00	-23.50273	2.12444	.01012	.88780
9.00 - 113.00	-11.53024	-2.25824	.00503	.87656
10.00 - 126.00	-17.18474	0.85596	.00679	.97381
11.00 - 139.00	-17.09656	3.75681	.00635	.83224
12.00 - 152.00	-31.34081	3.63002	.01220	.85436
13.00 - 165.00	-26.75693	2.72692	.01042	.64056
14.00 - 178.00	-10.46989	5.52063	.00443	.96651
15.00 - 190.00	-18.72450	1.171262	.00814	.95550
16.00 - 200.00	-13.94516	1.521220	.00619	.92278
17.00 - 212.00	-20.88278	1.521412	.00803	.92061
18.00 - 224.00	-15.43890	1.82349	.00602	.92404
19.00 - 236.00	-22.91200	1.82349	.00913	.92385

TABLE V. (Continued)
Energy Deposition (keV m^{-3} /source neutron)

SOURCE ENERGY $9.12\text{E-}03 - 2.48\text{E-}02$ (MEV)

ANGLE (DEG)		A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0	-	1.0	4.46554	-3.41394	.00154
1.0	-	1.0	.00000	.00000	.00000
3.0	-	1.0	20.65964	-6.56056	-.00371
5.0	-	1.0	-20.86427	1.08827	.00581
7.0	-	1.0	23.66550	-7.52646	-.00913
10.0	-	1.0	-12.58731	-1.18181	.00782
15.0	-	1.0	-6.37105	1.52125	.00500
20.0	-	1.0	-21.93141	.76508	.00751
30.0	-	1.0	-16.83829	-.42058	.00695
40.0	-	1.0	-10.31653	.53117	.00539
50.0	-	1.0	-15.79934	1.24799	.00607
60.0	-	1.0	-18.81157	1.13757	.00845
70.0	-	1.0	-18.31667	1.66876	.00793
80.0	-	1.0	-21.11227	.53980	.00643
90.0	-	1.0	-15.56551	.54912	.00584
100.0	-	1.0	-16.19551	-.43866	.00454
120.0	-	1.0	-10.98464	-.43266	.00493
140.0	-	1.0	-10.71503	.37117	.00668
160.0	-	1.0	-14.92907	2.57116	.01275
					.89385

SOURCE ENERGY $3.35\text{E-}03 - 9.12\text{E-}03$ (MEV)

ANGLE (DEG)		A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
.0	-	1.0	.00000	.00000	.00000
1.0	-	1.0	.00000	.00000	.00000
3.0	-	1.0	9.50574	-5.67868	-.00435
5.0	-	1.0	-19.17706	.61687	-.00397
7.0	-	1.0	7.78242	-4.50800	-.00345
10.0	-	1.0	-20.41333	1.01590	.00530
15.0	-	1.0	-19.05994	.86853	.00479
20.0	-	1.0	-41.36818	5.41337	.01459
30.0	-	1.0	-31.18939	3.62249	.01237
40.0	-	1.0	-17.69029	.96547	.00733
50.0	-	1.0	-13.45643	.10750	.00603
60.0	-	1.0	-16.30634	.77890	.00779
70.0	-	1.0	-14.59481	.37573	.00649
80.0	-	1.0	-13.67910	.19805	.00625
90.0	-	1.0	-11.17625	-.27155	.00569
100.0	-	1.0	-11.32698	-.51458	.00509
120.0	-	1.0	-22.96802	2.09183	.01072
140.0	-	1.0	-18.81409	1.26400	.00899
160.0	-	1.0	-22.50847	1.98485	.00983
					.00393

TABLE V.] (Continued)

Energy Deposition (keV m^{-3} /source neutron)SOURCE ENERGY $1.00\text{E-}03 - 3.35\text{E-}03$ (MEV)

ANGLE (DEG)	A COEFFICIENT	B COEFFICIENT	C COEFFICIENT	CORRELATION COEFFICIENT
0 - 1.0	.00000	.00000	.00000	.00000
1.0 - 2.0	.00000	.00000	.00000	.00000
2.0 - 3.0	60.53656	-13.55165	-.01036	.96338
3.0 - 4.0	-34.31738	-23.77088	.00997	.60126
4.0 - 5.0	-1.86019	-2.53350	.00062	.67299
5.0 - 7.0	-41.77502	5.33335	.01470	.63014
7.0 - 10.0	-19.09186	4.11117	.00747	.83735
10.0 - 15.0	-29.75911	3.32222	.01309	.93059
15.0 - 20.0	-13.43199	.05162	.00540	.86176
20.0 - 30.0	-15.63466	.68455	.00819	.96700
30.0 - 40.0	-17.98080	1.03336	.00757	.92100
40.0 - 50.0	-20.31837	1.69077	.01011	.79859
50.0 - 60.0	-13.07743	.008307	.00580	.97395
60.0 - 70.0	-24.37440	2.38223	.01090	.76151
70.0 - 80.0	-10.52716	-.37133	.00568	.98533
80.0 - 90.0	-15.56141	.60683	.00763	.97096
90.0 - 100.0	-14.58447	.40398	.00714	.93692
100.0 - 120.0	-13.11725	.04665	.00585	.96889
120.0 - 140.0	-15.61076	.59656	.00774	.92894
140.0 - 160.0	-30.17975	3.26878	.01060	.70183

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